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CONCERNING A FILING UNDER 35 U.S.C. 371**

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**TITLE OF INVENTION**

SERVICE EXECUTION METHOD AND SYSTEM FOR REGISTRATION OF DOMAIN NAMES USING VERNACULARS IN NON-ENGLISH SPEAKING COUNTRIES

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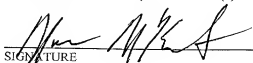
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 U.S.C. 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 U.S.C. 371.
3. ☒ This is an express request to begin national examination procedures (35 U.S.C. 371(f)). The submission must include items (5), (6), (9) and (21) indicated below.
4. ☒ The US has been elected by the expiration of 19 months from the priority date (Article 31).
5. ☒ A copy of the International Application as filed (35 U.S.C. 371(c)(2)).
  - a. ☒ is attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ has been communicated by the International Bureau. (attach form IB 308)
  - c. ☐ is not required, as the application was filed in the United States Receiving Office (RO/US).
6. ☐ An English language translation of the International Application as filed (35 U.S.C. 371(c)(2)).
  - a. ☐ is attached hereto.
  - b. ☐ has been previously submitted under 35 U.S.C. 154(d)(4)
7. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)).
  - a. ☐ are attached hereto (required only if not communicated by the International Bureau).
  - b. ☐ have been communicated by the International Bureau.
  - c. ☐ have not been made; however, the time limit for making such amendments has NOT expired.
  - d. ☐ have not been made and will not be made.
8. ☐ An English language translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).
10. ☐ An English language translation of the annexes of the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).

**Items 11 to 20 below concern document(s) or information included:**

11. ☒ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An assignment document for recording. A separate cover sheet in compliance with 37-CFR 3.28 and 3.31 is included.
13. ☐ A FIRST preliminary amendment.
14. ☐ A SECOND or SUBSEQUENT preliminary amendment.
15. ☐ A substitute specification.
16. ☐ A change of power of attorney and/or address letter.
17. ☐ A computer-readable form of the sequence listing in accordance with PCT Rule 13ter.2 and 35 U.S.C. 1.821 - 1.825.
18. ☐ A second copy of the published international application under 35 U.S.C. 154(d)(4).
19. ☐ A second copy of the English language translation of the international application under 35 U.S.C. 154(d)(4).
20. ☒ Other items or information: **Postcard; one set of Formal Drawings (Figs. 1-7); IPR**
- 20a. ☐ For purposes of examination, please insert the annexes to the IPR, so that the application will comprise the following pages of the English translation:  
 Specification: Original pages      Amended pages  
 Claims: Original claims      Amended claims

Rec'd PCT/PTO 04 APR 2002

U.S. APPLICATION NO. 10-687791		INTERNATIONAL APPLICATION NO.		ATTORNEY'S DOCKET NUMBER	
21. <input checked="" type="checkbox"/> The following fees are submitted				CALCULATIONS PTO USE ONLY	
<b>BASIC NATIONAL FEE (37 CFR 1.492 (a) (1) - (5):</b> Neither international preliminary examination fee (37 CFR 1.482) nor international search fee (37 CFR 1.445(a)(2)) paid to USPTO and International Search Report not prepared by the EPO or JPO ..... \$1040.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but International Search Report prepared by the EPO or JPO ..... \$890.00 International preliminary examination fee (37 CFR 1.482) not paid to USPTO but international search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... \$740.00 International preliminary examination fee (37 CFR 1.482) paid to USPTO but all claims did not satisfy provisions of PCT Article 33(1)-(4) ..... \$710.00 International preliminary examination fee (37 CFR 1.482) paid to USPTO and all claims satisfied provisions of PCT Article 33(1)-(4) ..... \$100.00					
<b>ENTER APPROPRIATE BASIC FEE AMOUNT =</b>				\$1040.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(e)).				\$	
CLAIMS	NUMBER FILED	NUMBER EXTRA	RATE	\$	
Total claims	- 20 =		x \$18.00	\$	
Independent claims	4 - 3 =	1	x \$84.00	\$ 84.00	
MULTIPLE DEPENDENT CLAIMS(S) (if applicable)			+ \$280.00	\$	
<b>TOTAL OF ABOVE CALCULATIONS =</b>				\$1124.00	
<input checked="" type="checkbox"/> Applicant claims small entity status. See 37 CFR 1.27. The fees indicated above are reduced by 1/2.				+ \$562.00	
<b>SUBTOTAL =</b>				\$562.00	
Processing fee of \$130.00 for furnishing the English translation later than <input type="checkbox"/> 20 <input type="checkbox"/> 30 months from the earliest claimed priority date (37 CFR 1.492(f)).				\$	
<b>TOTAL NATIONAL FEE =</b>				\$562.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property				+ \$	
<b>TOTAL FEES ENCLOSED =</b>				\$487.00	
				Amount to be refunded:	\$
				charged:	\$
a. <input checked="" type="checkbox"/> A check in the amount of <u>\$ 562.00</u> to cover the above fees is enclosed. b. <input type="checkbox"/> Please charge my Deposit Account No. _____ in the amount of \$ _____ to cover the above fees c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>22-0261</u> . A duplicate copy of this sheet is enclosed. d. <input type="checkbox"/> Fees are to be charged to a credit card. <b>WARNING:</b> Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.					
<b>NOTE:</b> Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137 (a) or (b)) must be filed and granted to restore the application to pending status.					
SEND ALL CORRESPONDENCE TO:				SIGNATURE 	
VENABLE P.O. Box 34385 Washington D.C. 20043-9998 Phone No. 202-962-4800 Fax No. 202-962-8300				NAME Norman N. Kunitz 20,586 REGISTRATION NUMBER	

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SERVICE EXECUTION METHOD AND SYSTEM FOR  
REGISTRATION OF DOMAIN NAMES USING VERNACULARS IN NON-  
ENGLISH SPEAKING COUNTRIES

Technical Field

- 5           The present invention relates to a service execution method and system for registration of domain names using vernaculars in non-English speaking countries, in which peoples in the non-English speaking countries, which are unable to compete with those in English speaking countries in terms of the security of domain names necessary to the creation of Web sites, can re-create and secure their domain
- 10   names based on vernaculars, having meanings substantially identical with those previously registered in English, and each Internet user can access a desired site directly without using a search window in a search browser, by typing a known site name in a URL window in his vernacular and then entering it, so that the peoples in the non-English speaking countries can benefit from the Internet use on equal terms
- 15   with those in the English speaking countries.

Background Art

- All computers connected to the Internet are assigned respective unique numbers each being yielded through a 32-bit numerical combination. Such a unique number is used as an identification number of an associated individual
- 20   computer, which is called an Internet address.

          The Internet address is partitioned into four groups, each of which is composed of eight bits and distinguished from the others by a dot. Each group may be represented by any one among numerals of 0 to 255, which is produced by an 8-bit possible combination. It is called an authorized Internet protocol (IP) address.

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However, representing Internet addresses only in a large number of numerals in the above manner results in considerable confusion and difficulty in understanding or memorizing an Internet address of a specific Web site. For this reason, there is a need to convert an Internet address into a system easy to understand and remember, using a combination of character strings. Such a system is called a domain name.

A domain name, needed to set up a Web site on the Internet, has to be made using a combination of alphanumeric characters and a hyphen, as defined in interNIC in USA. With further definitions concerning the domain name having a string with a maximum of 255 characters and an item with 2 to 63 characters, interNIC administers .com, .net, .org, etc., and KRNIC and JPNIC are authorized to administer .kr and .jp, respectively.

In the case of the domain name, e.g., .com which is one of highest-order domain names, the number of registerable domain addresses may be  $2^{32}$  due to possible 32-bit combinations. Although billions of distinct domain addresses are possible theoretically, the nature of the Internet limits the number of domain names actually usable, in terms of their popularity and easiness to access. Such domain names are now mainly owned by advanced countries or leading enterprises.

Thus, non-competitive late-comers in regard to the registry of domain names have a difficulty in registering domain names relevant to their own business or work as well as acquiring them. In other words, usable domain names are now actually considered to be fully exhausted.

The above-mentioned situation commonly occurs in developing or underdeveloped countries, as well as in Korea that experience the retardation of nation-wide computer use in policy and economy respects. This occurrence is also

seen in countries pertaining to non-English speaking communities. The reason is that many people in non-English speaking countries have lacked recognition of the Internet compared with those in English speaking countries and have fallen behind in competition for the earlier domain name registry.

- 5 Thus, in terms of the use of the Internet, users in non-English speaking countries are at a disadvantage in comparison to those in English speaking countries including the United States.

- The competitiveness of the Internet use depends on how quickly Web sites and information contained in those sites can be available. It is noted that since the
- 10 Internet domain names are based on the use of alphanumeric letters, there exists a significant difference between English speaking users and non-English speaking users in respect of an ability to recognize and analogize the meaning of domain names to be searched for. Naturally, the rate of the Internet use in non-English speaking communities is significantly lower than that in English speaking
- 15 communities.

For an access to a specific domain on the Internet, a user familiar with English can directly type any English words which he knows, in a URL (Uniform Resource Locator, such as <http://www>. ---- or <ftp://ftp>. ----) of a Web browser, thereby accurately arriving at a target site which he wants to visit.

- 20 In contrast, each user in non-English speaking communities, including the Hangul (Korean language) speaking community, usually envisages his native language version of a desired domain name to be visited and then converts it into English words to be typed in the URL. Most non-English users in the non-English speaking communities have an English letter typing rate inferior to a vernacular
- 25 typing rate, resulting in inefficient utilization for the Internet.
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Further, the incorrect translation of words used in non-English speaking communities into English may have such a wide range of error as to induce the incorrectness of a domain name in the URL requiring a complete match of the domain name with a registered one. This, in turn, results in the occurrence of an error in a DNS search.

For example, if an Internet user wishes to obtain information on "the Keumkang mountain" which is the name of a place in Korea, under the condition that he does not know the exact spelling of an English expression and domain name thereof, he has to enter possible combinations of English letters, such as

10 kumgangsanc.com, kumgangsanc.net, kumgangsanc.org, kumgangsanc.co.kr, kumgangsanc.com, kumgangsanc.net, kumgangsanc.org, kumgangsanc.co.kr, gumgangsanc.com, gumgangsanc.net, mtkumgang.com, mtkumgang.net, mtkumgang.org, kumgangmt.com, mtkumgang.co.kr, mtkumgang.com, and mtkumgang.net, until the entered one matches the registered one.

15 In particular, there is also a problem in that since Internet domain names owned by many companies in non-English speaking countries are denoted in English, an access by non-English users is not easy. As examples, the domain name of "Lotte Confectionary" is "lotteconf.co.kr", the domain name of "Charmzone" is "charmzone.co.kr", and the domain name of "Ssang yong

20 corporation" is "ssy.co.kr". It is appreciated that it would be considerably difficult for the general Internet users to analogize the respective domain names associated with the above examples.

This problem occurs in non-English speaking countries as well as in the Hangul speaking community using Hangul. In the case of Japan, when an English

25 word of, for example, "map" is to be used as a domain name, the corresponding

Japanese pronunciation may be written down in various similar ways as follows:  
tizu.com, tiju.net, tizu.org, tiju.co.jp, tizu.ne.jp, tiju.pe.jp, tizoo.com, tijoo.net,  
tizoo.org, tijoo.co.jp, tizoo.ne.jp, tijoo.pe.jp, chizu.com, chiju.net, chizu.org,  
chiju.co.jp, chizu.ne.jp, chiju.pe.jp, chizoo.com, chijoo.net, chizoo.org, chijoo.co.jp,  
5 chizoo.ne.jp and chijoo.pe.jp. As another example, in the case of China, when an  
English word of, for example, "telephone-directory" is to be used as a domain name,  
the corresponding Chinese pronunciation may be written down in various similar  
ways as follows: dianhuabu.com, dianhuabu.net, dianhuabu.org, dianhuabu.co.cn,  
dianhuabu.ne.cn, dianhuabu.pe.cn, dianhwabu.com, dianhwabu.net, dianhwabu.org,  
10 dianhwabu.co.cn, dianhwabu.ne.cn, dianhwabu.pe.cn, dianwhaboo.com,  
dianwhaboo.net, dianwhaboo.org, dianwhaboo.co.cn, dianwhaboo.ne.cn,  
dianwhaboo.pe.cn, dianhuabuo.com, dianhuabuo.net, dianhuabuo.org,  
dianhuabuo.co.cn, dianhuabuo.ne.cn and dianhuabuo.pe.cn.

For this reason, Internet users in non-English speaking communities prefer  
15 to use search engines which provide vernacular-based Internet search sites, rather  
than use a URL window in a Web browser at the time of using the Internet. In the  
case of using any one of the above search sites, each Internet user can access a  
desired site by typing a known site name in a search window in his vernacular (non-  
English language) and then entering it.

20 A vernacular-based search site has a database containing information based  
on a native language of an associated country. If there is a search request for a  
native language-based word, registered in the database, the search site retrieves all  
domain names associated with the entered word from the database and displays the  
retrieved domain names, thereby allowing each Internet user to select a desired one  
25 of the displayed domain names and access a site of the selected domain name.

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However, it is not easy for an Internet user to enter a word based on his native language in a search window of a search site with an Internet search engine and then to exactly find out an Internet domain name designated by the entered word.

5 In the case of searching for a specific Web site through the search window, an entered word is regarded as a wild card word and, therefore, innumerable domain names, including a domain name of the specific Web site, are often searched. Thus, it is difficult to find a desired Web site among a large number of searched sites, leading to a significant reduction in search efficiency and an increase in search  
10 time with an increase in the number of clicking times.

Such a disadvantage in use of the Internet in the non-English speaking communities, as compared with English speaking communities, deteriorates competitiveness between individuals, companies or countries, consequently resulting in the vicious circle of a wider gap therebetween and even a larger  
15 difference between the wealthy and poor countries.

#### Disclosure of the Invention

Accordingly, the present invention has been made keeping in mind the above problems occurring in the prior art, and an object of the present invention is to provide a service execution method and system for registration of domain names  
20 using vernaculars in non-English speaking countries, in which peoples in the non-English speaking countries, which are unable to compete with those in English-speaking countries in terms of the security of domain names necessary to t.

~~creation of Web sites; can re-create and secure their domain names based on~~  
vernaculars, having meanings substantially identical with those previously registered



in English, so that Internet domain names presently in saturation can be re-created as different alternatives thereto respectively by several ten kinds of keyboards.

Another object of the present invention is to provide a service execution method and system for registration of domain names using vernaculars in non-English speaking countries, in which peoples in the non-English speaking countries can benefit from Internet use on equal terms such as an equal Internet using speed with those in English speaking countries.

A further object of the present invention is to provide a service execution method and system for registration of domain names using vernaculars in non-English speaking countries, in which the domain names are systemically guided and maintained to prevent the production of sites being in name but not in reality.

Yet another object of the present invention is to provide a service execution method and system for registration of domain names using vernaculars in non-English speaking countries, in which peoples in non-English speaking countries, including a Hangul speaking zone, can use E-mail addresses and homepage addresses created using their vernaculars or iconized using special-purposed symbols assigned respectively to numerical keys on keyboards, thereby making it easy to recognize and remember the E-mail addresses and homepage addresses.

In accordance with the present invention, the above and other objects can be accomplished by a provision of a method for registering domain names using vernaculars in non-English speaking countries, comprising the first step of recognizing that a computer of a user connects to a vernacular sub-domain Web site directly or through a main domain Web site and selects a vernacular domain name registration service to request registration of a domain name based on a vernacular of the user; the second step of running a plug-in program to automatically produce an arrangement of English characters corresponding to the vernacular-based domain name, if the vernacular domain name registration service is selected; and the

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third step of determining whether the produced English character arrangement has already been registered as an existing domain name and, unless the produced English character arrangement has already been registered, registering it as the vernacular-based domain name and notifying the user of the registered result.

## 5 Brief Description of the Drawings

The above and other objects, features and other advantages of the present invention will be more clearly understood from the following detailed description taken in conjunction with the accompanying drawings, in which:

Fig. 1 is a block diagram of a service execution system for registration of domain names using vernaculars in non-English speaking countries according to the present invention;

Fig. 2 is a flowchart schematically illustrating a service execution method for registration of domain names using vernaculars in non-English speaking countries according to the present invention;

Fig. 3 is a flowchart illustrating a procedure of registering a vernacular domain name according to the present invention;

Fig. 4 is a flowchart illustrating a procedure of searching for a Web site using a vernacular according to the present invention;

Fig. 5 is a flowchart illustrating a procedure of registering a vernacular E-mail address according to the present invention;

Fig. 6 is a view illustrating an initial screen layout of a Web site using Hangul, which is one of main portal sites for providing a vernacular domain name registration service according to the present invention; and

Fig. 7 is a view illustrating a screen layout for a Hangul domain name registration guidance, developed according to a selection of a domain registration menu in Fig. 6.

To set up an Internet Web site, it is required to have a unique domain name throughout the whole world.

A domain name system has an inverted hierarchical tree structure having a root as a starting point.

5 The infrastructure of the root domain includes highest-order domains of .org, .net, .com, .edu, .kr, and .jp, which include their infrastructures having sub-domains of .co, .ac, .or, etc., respectively. The infrastructures of those sub-domains may consist of domain names of, for example, company's names, personal names, etc., respectively.

10 The use of a new domain name is allowed only when the name is registered with interNIC in order to maintain its uniqueness over all registered domain names.

The highest-order domains of .com, .net, .org, .edu, .gov, etc., are administered by interNIC, where .com is used by the company for profit or the organization, .net used by organizations managing networks, .org used by not-for-profit organizations, .edu used by universities, and .gov used by the United States Government.

20 The domain of .com, among the above domains, is the most popularized top level to which quite numerous sub-domains over the Internet are pertained, which now leads to the exhaustion of meaningful domain names. Therefore, it may be actually impossible to create a registerable sub-domain name of the .com domain using a specific significant word or a combination of characters.

Under substantially full exhaustion of any newly available sub-domains, the present invention is able to produce second or third domain names with meanings identical or similar with or to those of all initial domain names, which second and 25 third domain names are capable of being actually registered.

Each of the currently registered domain names consists of a combination of alphanumeric characters or character strings having a specific meaning. Therefore, each non-English native user in non-English speaking countries must change a keyboard connected to his computer from a vernacular mode to an English mode and then type a specific English word in a URL window, search window or domain name registration window on a Web site displayed on a monitor of the computer, in

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order to register a new domain name or access a specific Internet Web site.

In the case where the non-English native user types a word based upon his vernacular under the condition that the keyboard of the computer is in the English mode, an ambiguous arrangement of English characters appears on a screen of the monitor. It is noted that since such an ambiguous arrangement of English characters usually deviates from a consonant and vowel system of the English language, the probability that there will be a match between a domain name based on the above English character arrangement and pre-registered domain names is extremely low. Therefore, the non-English native user can register the above ambiguous arrangement of English characters as a new domain name and memorize the registered domain name as a vernacular word on the keyboard to recognize it.

As an example, a description will hereinafter be given of a procedure of producing a domain name in Korean or Hangul and registering it with interNIC.

First, the production of an Internet domain name through the use of a plug-in program will be described. First, a Hangul user connects to a main Web site provided by the present invention using his own computer. Then, in order to register a desired domain name with interNIC, the Hangul user positions the cursor on a Hangul domain registration window, selects a Hangul mode using a Korean/English switching key on a Hangul keyboard and types a specific meaningful Korean word in the Hangul domain registration window. As a result, Korean letters appear in the Hangul domain registration window.

The plug-in program executes an automatic conversion of the input Korean domain name into a series of English characters. For example, under the condition that the Hangul keyboard is in the English mode, when a Hangul word of "여행" (which means "travel") is entered, an arrangement of English letters corresponding to that Hangul word appears as "dugod", which arrangement itself will be registered as a domain name. Similarly, when a Hangul word, "은행" (which means "bank") is inputted, an arrangement of English letters corresponding to that Hangul word appears as "dmsgod", which arrangement itself will be registered as a domain name.

Similarly, when "경매" (which means "auction") and "담배" (which means "tobacco") are entered as domain names to be registered, they become "rudao" and

"ekaqo", respectively.

The plug-in program can be directly downloaded through a certain download-purposed window provided on the Web site, or be provided as a component of the Web browser. In addition, while the user simply uses the program, a Web server as an administrator serves as a convenience to the user by acquiring the authority for domain name registration capable of guiding a vernacular entered in an address box to a download page and directly applying it to a database.

Once a domain name to be registered is determined in such a manner, a domain name registration program in the main web site runs to authenticate whether a word with an English character arrangement of the determined domain name has been already registered or not, and if not registered, immediately proceeds to register the determined domain name.

After completing the registration of a domain name requested by a requester in the above manner, the main Web site or Korean-based sub-web site displays a Hangul expression of the requested domain name together with an arrangement of English characters corresponding thereto; so that the requester can recognize them.

As described above, the plug-in program can be used to automatically produce an Internet domain name. Alternatively, a series of English characters may be produced as a domain name by typing a Korean word with a specific meaning in the English mode of the keyboard and then directly registered with interNIC. This procedure is performed in the following manner.

First, a Hangul user connects to the main Web site provided by the present invention over the Internet. Then, in order to register a desired domain name with interNIC, the Hangul user positions the cursor on the Hangul domain registration window, selects the English mode using the Korean/English switching key on the Hangul keyboard and types a specific meaningful Korean word in the Hangul domain registration window. As a result, an ambiguous arrangement of English letters appears in the Hangul domain registration window.

For example, under the condition that the Hangul keyboard is in the English mode, when a Hangul word of "여행" (which means "travel") is entered, an

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ambiguous arrangement of English letters corresponding to that Hangul word appears as "dugod" in the Hangul domain registration window, which arrangement itself will be registered as a domain name. Similarly, when a Hangul word, "은행" (which means "bank") is inputted, an ambiguous arrangement of English letters corresponding to that Hangul word appears as "dmsgod" in the Hangul domain registration window, which arrangement itself will be registered as a domain name. Similarly, when "경매" (which means "auction") and "담배" (which means "tobacco") are entered as domain names to be registered, they appear respectively as "rudao" and "ekaqo" in the Hangul domain registration window.

If a domain name to be registered is determined in the above manner and a key for registration execution is entered, then the domain name registration program in the main web site runs to authenticate whether a word with an English character arrangement of the determined domain name has been already registered or not, and if not registered, immediately proceeds to register the determined domain name. In a similar manner to the use of the plug-in program, after completing the registration of a domain name requested by a requester, the main Web site or Korean-based sub-web site displays a Hangul expression of the requested domain name together with an arrangement of English characters corresponding thereto, so that the requester can recognize them.

The plug-in program may be used for translating a server computer name, www, and names indicating a kind of domain, .com, .net, etc., in a URL into vernaculars of respective countries, including Hangul.

For example, "www.eoxhdfud.com" or "www.eoxhdfud.net" in the URL may have substantially the same address value as that of any one of the following items:

- ① www.대통령.com, or www.대통령.net
- ② www.대통령.대한민국, or www.대통령.대한민국

Also, if a user wants to enter "www.eoxhdfud.co.kr" in the URL, the following keystrokes are possible:

- ① www.대통령.co.kr
- ② www.대통령.대한민국

With the above series of keystrokes, the user can automatically gain access to a site of a desired domain address.

When a domain name created using a vernacular, including Hangul, is to be registered, a requester is required to provide his personal information. The provision of the requester's personal information is essential to the registration of a domain name. A list of requesters may be stored in a separate member database to maintain them, which database can be shared with the main Web server for organic data exchange with the Web server.

With the maintenance of registered members, activation for the use of domains is promoted, e.g., through a guidance of the efficient use of Internet domain names and indication of prompting the use of domains left unused.

In the case of creating an English domain name using a Hangul keyboard, the resulting non-grammatical English domain name would consist of more than five English letters, because most Hangul words contain more than two syllables and one Hangul character is separated into initial and medial phonemes, or initial, medial and final phonemes. This offers information of a significance in selecting a domain name.

The initials frequently used in English speaking communities and also used as a domain name mostly contain three to four letters, and combinations of more than five letters are little used, except for particular cases. Further, since the initials are usually made by English native users in consideration of English pronunciation, the combination of alphabet letters resulting from the Hangul-used domain name has the lowest possibility of being in conflict with the existing English initials.

In particular, in the case of making an English domain name using a Hangul keyboard, the construction requirements of the domain name can be exactly met. This is because the keys for the Hangul letters including the consonant and vowel key buttons on the keyboard are also used for English letters on the same keyboard.

Internet domain names based upon Chinese, Japanese, Arabic, French, German, Russian, Hindi, etc. can also be created and registered in the substantially same manner as the above procedure of creating and registering a Hangul domain name.

In order to create unique and originative domain names among non-English speaking countries, each user is required to have a keyboard supporting the entry of his native language letters, as well as English letters. Such keyboards may be, for example, Arabic, Belarussian, Bengali, Belgian, Bulgarian, Burmese, Chinese, Croatian, Czech, Danish, Estonian, Farsi, French, German, Greek, Hebrew, Hindi, Hungarian, Italian, Japanese, Korean, Latin America, Macedonian, Nepali, Netherlands, Nowegian, Pashto, Polish, Portuguese, Romanian, Russian, Serbian, Snhali, Slovak, Slovenian, Soanish, Swedish, Swiss, Tamil, Thai, Ukrainian, Urdu and Vietnamese keyboards.

10 For example, for the word of "Education", assuming that the domain name, "education.com" has been already registered, then the Hangul keyboard generates "rydbr.com" as a corresponding domain name, the Chinese Keyboard "ru14m4.com", the Japanese Keyboard "g9yeh.com, and the Arabic keyboard "jvfdm.com".

15 As another example, in the case of the entry of "의복" (which means "clothes"), even if the domain name, "clothes.com" has been already registered, the Hangul keyboard generates "dmlqhr.com" as a domain name corresponding thereto, similarly, the Chinese Keyboard "uzj6.com", the Japanese Keyboard "942h.com, and the Arabic keyboard "lghfs.com".

20 Although the production of the domain name has been described with reference to the .com domain, it is obviously possible to make unique domain name for different levels of the domain name in similar manner described above, for each country, or strictly for different keyboards: e.g., .co.kr, .pe.kr, .ne.kr,..., used in Korea; .co.tw, .pe.tw, .ne.tw,..., used in Taiwan; .co.cn, .pe.cn, .ne.cn,..., used in China; .co.jp, .pe.jp, .ne.jp,..., used in Japan; .co.ir, .pe.ir, .ne.ir,..., used in Iran; and co.jo, .pe.jo, .ne.jo,... used in Jordan; as well as .net and .org.

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On the other hand, most keyboards for the entry of non-English-based words, except for Hangul, are typically provided with additional keys for the keystrokes of general symbolic characters and special characters, which keys are also needed to express letters of various non-English native languages, in addition to keys for 26 English alphabetic letters.



However, this use of keys often results in a failure to satisfy the requirements of the Internet domain name registration, in contrast with the case of creating an English domain name using Hangul.

The registry of an Internet domain name is allowed only when the name includes a combination of numerals 0 to 9, alphabetic letters and a hyphen. Therefore, in the case where an English domain name is made using a Japanese word including 'x' on the Japanese keyboard, the letter of "x" is converted to a symbol of "/", the use of which violates the requirements of the domain name so that the domain name cannot be registered with the Internet domain name administration authority. Also, in the case of using the Chinese keyboard, if an English domain name is made using a Chinese word including '竹', the Chinese letter of "竹" is converted to the symbol of "/", so that the domain name cannot also be registered with the Internet domain name administration authority.

Such a problem occurring at the time of direct conversion of a non-English native language into the English language appears in most keyboards used in many countries, except for the Hangul keyboard.

However, this problem can be solved through the use of a plug-in program having a peculiar data processing algorithm according to the present invention.

The solution to the above problem becomes possible using the plug-in program operable to automatically converting a word based on a non-English native language into an arrangement of alphanumeric characters, provided by the present invention, wherein the program allows only the entries of keys corresponding to numerals of 0 to 9, alphabetic letters of a-z and a hyphen of -, even if any keystrokes for forming any words by a non-English native language are activated, and ignores the entries of keys not allowed in terms of a domain name, thereby making the creation of the domain name possible, even when any word combination made based upon a non-English native language is input.

For example, in case a non-English speaking user wishes to have a domain name which is obtained with automatic conversion of a desired vernacular domain name into an English domain name through the use of the plug-in program, and an English arrangement corresponding to the desired non-converted domain name is

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"tk#j@o7\*f", the plug-in program excludes prohibitive special-letters, "#", "@" and "\*", among the above arrangement of "tk#j@o7\*f" and adopts the remaining letters, "tkjo7f" consisting of only characters and numerals, as the final domain name to be registered.

5 In order that any user in all countries can be served with respect to the registry of a domain name made based upon his own native language, the plug-in program may be resident in all server domain Web sites, as well as the main domain Web site.

Fig. 1 is a block diagram of a service execution system for registration of domain names using vernaculars in non-English speaking countries according to the present invention.

With reference to Fig. 1, a Web server 10 may have a member database 12, a plug-in program provision system 14, and an E-mail server 16 which is managed in the Web server 10 or available from affiliated concerns for serving electronic mail or "E-mail" to registered members.

As a Web portal site, which is created and uploaded on the Internet by the Web server 10, is used a base level of a main domain Web site, for example, "iklik.com" or "iklik.net", to which sub-domains of individual countries are linked.

The sub-domains may be defined as follows: in the case of Korea, "eoxhdfud.com" or "eoxhdfud.net", or alternatively, "대통령.com" or "대통령.net"; in the case of Japan, as "천황.com" or "천황.net"; or in the case of Thailand, "수상.com" or "수상.net". It is obvious that the above-mentioned notations of "천황" or "수상" would be expressed in a Japanese or Thailand native language, instead of the Korean language. As such, any user over the world can use a computer 18 to access the Web server 10 of the present invention through the main or sub-domain Web site.

A user may want to create and register an Internet domain name based upon his native language, or to be guided to proceed to a target site. To this end, the user accessing the Web server 10 can click over a country indication window on the Web site screen of the main domain, such as iklik.com, eoxhdfud.com, iklik.net, eoxhdfud.net, etc. Then, the user can arrive at a sub-domain Web site, linked to the

Web server 10, of each country.

- With simple clicking on the menu prepared in the main Web site or in foreign Web sites, the user arrives at his vernacular-used Web site, where the user can be provided with a registration agent's service when he requests the registration of a domain name including his own native language.

- Fig. 6 illustrates a screen layout of a Web site capable of being made and edited according to the present invention. As shown in this drawing, the Web site built by the Web server of the present invention may include a main domain display area 20, a sub-domain display area 22, a main menu display area 24, a domain registration menu selection area 26, a sub-menu display area 28 and an individual country calling area 30.

The main domain display area 20 is used to indicate a higher-order domain of the Web site of the present invention, such as *iklik.com* or *iklik.net*, or *대통령.com* or *대통령.net*.

- The sub-domain display area 22 shows a plurality of sub-domains each having its own domain function, including, for example, '정치 (politics) .com', '경제 (economy) .com', "스포츠 (sports) .com", "과학 (science) .com", "건강 (health) .com" and "법률 (law) .com", which are organically linked to the main domain.

- The main menu display area 24 and sub-menu display area 28, which have organic relation to each other, are PIP-switched depending on the menu selection (clicking) by a Web site visitor. In the sub-menu display area 28 in Fig. 6, windows associated with the selected menus, arranged with the concept of sequential arrangement, are sequentially shifted in A, B and C order, from the window immediately before the latest window.

For example, if the window A in the sub menus display area 28 is clicked, contents in the area A are displayed on the whole main menu, while the current contents in the main menu having been displayed on the main menu are moved to the area A to be displayed.

On the other hand, if the window B is clicked, contents in the area B are displayed on the whole main menu, while the contents in the window A are moved

down to the window B to be displayed and the main menu is displayed on the window A.

The individual country calling area 30 is provided to be able to indicate the national flags, together with the names of the countries. With the clicking on the flag of interest, a language to be used in the main menu 24 can be selected. Therefore, this invention provides an excellent advantage when each Internet user in individual countries accesses the Web site of the main domain of interest or the Web site of the sub-domain in a foreign language and then switches the accessed Web site into his own native language Web site.

On the other hand, for the registration of a domain name in vernacular after each Internet user in individual countries accesses the Web site of interest, the user can simply click on the domain registration menu selection area 26. For example, if a Korean clicks on the above area for the registration of a Korean-based domain name, a Hangul domain name registration request window 32 appears on the screen, as shown in Fig. 7.

Then, a domain name requester enters a desired Hangul domain name .com in the Hangul domain name registration request window 32 through the Hangul Keyboard. The requester can use the mouse in order to enter the Hangul domain name by positioning the mouse cursor 36 over a desired letter on a key input area 34 and then clicking it. Then, an interNIC domain name input box 38 is used for entering the Hangul domain name and also for showing the entered vernacular name and an English alphanumeric arrangement corresponding thereto.

In addition, an individual country's (including Korea) domain name input box 40 can also be used for entering a domestic-exclusive Hangul domain name and requesting the registration thereof. In such a way, after a desired native language-based domain name is entered, a simple clicking of the registration button recognition area 42 advances to a procedure for registering a vernacular domain name.

The above-described procedure of registering the domain name may also be applied to those for serving subscriber-oriented personal homepages under the Web server 10, as well as for requesting E-mail address assignment. Special symbols,

for example, !, @, #, \$, %, ^, &, \*, etc., obtained when pressing 0 to 9 numeral keys with a shift-key being pressed may be used to make a single imaged form for the E-mail address and homepage address and to register it.

The addresses of the home page and E-mail which the Web user in each country gets and builds can be made using symbols within the domain name constraints defined by the interNIC. Thus, the use of all letters, numbers and symbols which are generated from the keyboard used in each country are allowed for registering a vernacular-used domain name and E-mail address necessary for building a domestic-exclusive homepage in each country.

Fig. 2 is a flowchart schematically illustrating a service execution method for registration of domain names using vernaculars in non-English speaking countries according to the present invention.

As shown in Fig. 2, an Internet user accesses a main Web site, such as eoxxhdfud.com, iklik.net, etc., clicks a menu for designating his own country to access a sub Web site in his own native language, and then decides whether or not the user's vernacular-used domain name registration will be made.

In the case of requesting the domain name registration, a flow advances to a subroutine where the registration of the vernacular-used domain name is completed, and otherwise, information search in a Web site of interest or any search for another site is made.

Fig. 3 is a flowchart illustrating a procedure of registering a vernacular domain name according to the present invention.

At first, if a user in a non-English speaking country accesses the Web server 10 through the Web site to request the registration of an Internet domain name made using his own native language and to enter his personal information, the Web server 10 retrieves and activates the plug-in program from the plug-in program provision system 14, and thus creates a string of English alphabetic letters corresponding to the requested user's native language-based domain name.

The plug-in program allows only the entries of keys corresponding to numbers, English letters and a hyphen and ignores the entries of keys not allowed in terms of a domain name, thereby to satisfy requirements of the domain name

registration. Therefore, the domain name satisfying the registration requirements can always be created for any entry of the possible combined native language-based words.

5 The program inquires to the Internet domain name registration authority for confirming whether or not an arrangement of English alphabetic letters directly converted corresponding to the user's own native language-based domain name has been already registered. If no prior registration of the requested domain name is made, the registration procedure is immediately taken. The requester may be informed or notified of the result through E-mail.

10 The information including the requester's personal details, a native language-based name, an English language-based name, etc. may be stored in the member database 12, if necessary. Based on the database containing information on each domain registration member, the guide for utilization of each registered domain and the maintenance are administrated.

15 After completing the domain name registration as described above, the domain name can directly be entered in the URL as an arrangement of English letters, so that the user can access the Web site requested by the entered domain name.

Also, the domain name can directly be entered in the URL by using the  
20 user's own native language for access to the requested Web site. For example, for an access to the portal Web site having the domain name, "eoxhdfud" of the present invention, even the keystrokes of "www.대통령.com" in the URL are possible. This operation may need to have a non-English native to English automatic conversion plug-in program in advance, which program can be downloaded from the  
25 portal site to which the system of the present invention is applied.

If an Internet user or domain name registration requester accesses the Web site according to the present invention using his computer 18 and clicks the plug-in program download menu provided on the Web site, the Web server 10 sends an automatic domain name conversion program stored in the plug-in program provision  
30 system 14 to the user computer 18.

In case a user in a non-English speaking country uses his computer having

downloaded the plug-in program and stored therein to enter a domain name for a specific Web site in the URL by using his own native language, an access to the Web site requested can be directly made, if the Web site has been already registered.

For recognition of a non-English domain name entered in the URL, the plug-in program is operated to take only non-English letters containing an identifier between a host name such as www, ftp, etc. and a sub-domain such as com, co.kr, pe.kr, etc. and to sequentially convert them into the corresponding English alphanumeric letters. Then, the program searches for a Web site based on the converted domain name, while indication of the non-English domain name remains in the URL. For example, in case the user types "http://www.대통령.com" in the URL and presses an Enter key, the plug-in program is automatically activated to be connected to "http://www.eoxhdfud.com", but the URL box maintains a display of "http://www.대통령.com".

Therefore, each non-English speaking user can confirm a domain name for access through the URL box in which the domain name is expressed in the user's recognizable native language, whereby a convenient use of the Internet is provided.

Unlike the foregoing, a portion of the domain name in which non-English letters are placed among the letters displayed in the URL may be defined using the keyboard or the mouse, and the non-English letters in the portion may be converted into an arrangement of alphanumeric letters through the plug-in program.

Fig. 4 is a flowchart illustrating a retrieval procedure for accessing a desired Web site with a user's native language-based domain name by using the above explained plug-in program.

On the other hand, the E-mail server 16 of Fig. 1 is linked to the Web server 10 to provide the members with E-mail accounts. Each subscriber is assigned a personal E-mail account, the member's vernacular version of which can be registered through the request of E-mail assignment under the condition that the above explained plug-in program is driven.

In general, if a domain name, "iklik.com" is used and a mail address is "secretary" registered with the E-mail service provided from the domain, a normal transcription of an E-mail address will be "secretary@iklik.com".

It is noted that any Hangul address may be used instead of "secretary" used in the E-mail to be registered as a Hangul E-mail address. In addition, it is also possible for non-English speaking peoples to register their vernacular versions of E-mail addresses.

- 5 As described above, in case the plug-in program, which allows non-English letters within a particular segment predefined to be automatically converted in an arrangement of English letters with respect to the particular segment, is directly applied to a format of an E-mail address, the user's native language-based version of the E-mail address is convenient in using such an E-mail address by users in non-English speaking countries.

- 10 Thus, if a domain name, "iklik.com" is used and a mail address is defined as "비서" (which means "secretary") which is registered with the E-mail service provided from the domain, an E-mail address will be "비서@iklik.com". Under the plug-in program activated, the mail server side can recognize the E-mail address as "qltj@iklik.com", which can be used for sending or receiving E-mail data.

- 15 If a user defines a mail address as "비서" (which means "secretary") to be used in the domain, "대통령.com" of the Web portal site in the Hangul speaking community, an E-mail address may be transcribed like "비서@대통령.com", which can readily be recognized and remembered by himself and others.

- 20 Fig. 5 is a flowchart briefly summarizing the above-explained procedure of registering the user's native language-based version of the E-mail address.

- Service for assisting in building a Web server-based personal homepage based upon a vernacular version of an E-mail address can be provided to each member of the Web site of the present invention by using the vernacular-based domain name registration method and the E-mail address assignment request and registration method. In this case, epochal activation in using E-mails and home pages would be made within each country, whereby a number of members in the sub-domain Web site are secured for each country, resulting in the building of a robust main domain Web site, the position of which is absolutely secured.



As apparent from the above description, according to the present invention, peoples in non-English speaking countries, which are unable to compete with those in English speaking countries in terms of the security of domain names necessary to the creation of Web sites, can re-create and secure their domain names  
5 based on vernaculars, having meanings substantially identical with those previously registered in English.

Further, new domain names of each non-English speaking country can be applied to popular Internet domain names being presently in saturation, thereby avoiding a domain drain situation.

10 In addition, peoples in non-English speaking countries can benefit from Internet use on equal terms such as an equal Internet using speed with those in English speaking countries.

Moreover, domain names are systemically guided and maintained to guide and encourage activation of sites left unused, thereby preventing the production of  
15 sites being in name but not in reality.

Furthermore, peoples in non-English speaking countries, including a Hangul speaking zone, can use E-mail addresses and homepage addresses created using their vernaculars, thereby making it easy to recognize and remember the E-mail addresses and homepage addresses.

20 Although the preferred embodiments of the present invention have been disclosed for illustrative purposes, those skilled in the art will appreciate that various modifications, additions and substitutions are possible, without departing from the scope and spirit of the invention as disclosed in the accompanying claims.

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## Claims:

1. A method for registering domain names using vernaculars in non-English speaking countries, comprising the steps of:

5 a) recognizing that a computer of a user connects to a vernacular sub-domain Web site directly or through a main domain Web site and selects a vernacular domain name registration service to request registration of a domain name based on a vernacular of the user;

10 b) running a plug-in program to automatically produce an arrangement of English characters corresponding to said vernacular-based domain name, if said vernacular domain name registration service is selected; and

c) determining whether the produced English character arrangement has already been registered as an existing domain name and, unless the produced English character arrangement has already been registered, registering it as said vernacular-based domain name and notifying the user of the registered result.

15 2. The method according to Claim 1, wherein said step a) includes the step of providing a menu window including a vernacular key input area for displaying a vernacular keyboard when the user requests the registration of said vernacular-based domain name and allowing the user to click character and numeral keys on the displayed vernacular keyboard using a mouse to produce a vernacular word.

20 3. The method according to Claim 1, wherein said vernacular sub-domain Web site is created with respect to each of said non-English speaking countries and said plug-in program is resident in each of said main domain Web site and vernacular sub-domain Web site to generate English character key information corresponding to character key buttons on a vernacular keyboard used in each of  
25 said non-English speaking countries.

4. The method according to Claim 3, wherein said plug-in program resident in each of said main domain Web site and vernacular sub-domain Web site is run, when each user in said non-English speaking countries requests registration of a domain name and a search for domains using a vernacular word, to display said  
5 vernacular word in a URL window of a Web browser, automatically convert said vernacular word into an arrangement of English characters and process said domain name registration and domain search on the basis of the converted English character arrangement.

5. The method according to Claim 1, wherein said plug-in program is run,  
10 upon inputting key values constituting a vernacular word of each of said non-English speaking countries, to pass only ones corresponding to numerals, English letters and a hyphen among the inputted key values and discard the others, thereby producing a domain name which can always be registered and searched.

6. The method according to Claim 1, wherein said plug-in program is run  
15 to convert a desired portion of a vernacular-based domain name entered in a URL window into a series of English characters, said desired portion being set in a block form by a keyboard.

7. The method according to Claim 1, wherein said plug-in program is run  
20 to convert a desired portion of a vernacular-based domain name entered in a URL window into a series of English characters, said desired portion being set in a block form by a mouse.

8. A method for registering electronic mail addresses using vernaculars in non-English speaking countries, comprising the steps of:

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a) selecting an electronic mail provision service provided in a main domain Web site or a vernacular sub-domain Web site created with respect to each of said non-English speaking countries to request said main domain Web site or vernacular sub-domain Web site to assign a vernacular-based electronic mail address;

5 b) receiving information about said vernacular-based electronic mail address if said electronic mail provision service is selected and running a plug-in program to automatically produce an arrangement of English characters corresponding to said vernacular-based electronic mail address; and

c) determining whether the produced English character arrangement has  
10 already been registered as an existing electronic mail address and, unless the produced English character arrangement has already been registered, registering it as said vernacular-based electronic mail address in a Web server of said main domain Web site and notifying a requester of the registered result.

9. A method for registering homepage addresses using vernaculars in non-  
15 English speaking countries, comprising the steps of:

a) selecting a homepage address provision service provided in a vernacular sub-domain Web site created with respect to each of said non-English speaking countries to request said vernacular sub-domain Web site to assign a vernacular-based homepage address;

20 b) receiving information about said vernacular-based homepage address if said homepage address provision service is selected and running a plug-in program to automatically produce an arrangement of English characters corresponding to said vernacular-based homepage address; and

c) determining whether the produced English character arrangement has  
25 already been registered as an existing homepage address and, unless the produced English character arrangement has already been registered, registering it as said

vernacular-based homepage address in a Web server of said vernacular sub-domain Web site and notifying a requester of the registered result.

10. The method according to Claim 8, wherein said registered electronic mail address is composed of a combination of all letters, numerals and symbols produced by a vernacular keyboard used in each of said non-English speaking countries.

11. The method according to Claim 9, wherein said registered homepage address is composed of a combination of all letters, numerals and symbols produced by a vernacular keyboard used in each of said non-English speaking countries.

12. A system for registering domain names using vernaculars in non-English speaking countries, comprising:

a Web server for creating a main site based on a specific domain name, linking to said main site a plurality of sub-sites based respectively on vernaculars of said non-English speaking countries to allow a large number of user computers over the world to access said Web server on the Internet and performing an automatic search or vernacular domain registration service requested by a user connected thereto according to a plug-in program;

a plug-in program provision system for providing said plug-in program in response to a plug-in program download request from said Web server or the user connected thereto; and

a member database for storing personal information of members with domain names registered in their vernaculars and information on domain registration under control of said Web server.

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13. The system according to Claim 12, wherein said Web server includes an electronic mail server for assigning an electronic mail address with an arrangement of English characters on a keyboard to each of said members to provide him with an electronic mail service, said English character arrangement corresponding to a word  
5 based on a vernacular of each of said members.

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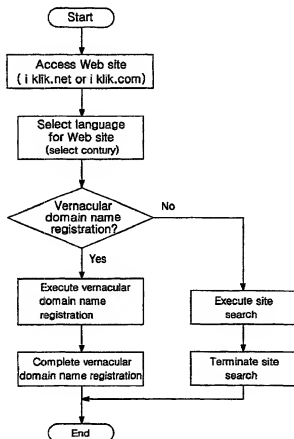
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[Continued on next page]

(54) Title: SERVICE EXECUTION METHOD AND SYSTEM FOR REGISTRATION OF DOMAIN NAMES USING VERNACULARS IN NON-ENGLISH SPEAKING COUNTRIES



(57) Abstract: A service execution method and system for registration of domain names using vernaculars in non-English speaking countries, in which peoples in the non-English speaking countries, which are unable to compete with those in English speaking countries in terms of the security of domain names necessary to the creation of Web sites, can re-create and secure their domain names based on vernaculars, having meanings substantially identical with those previously registered in English. A computer of a user may connect to a vernacular sub-domain Web site directly or through a main domain Web site and select a vernacular domain name registration service to request registration of a domain name based on a vernacular of the user. If the vernacular domain name registration service is selected, a plug-in program is run to automatically produce an arrangement of English characters corresponding to the vernacular-based domain name. Unless the produced English character arrangement has already been registered as an existing domain name, then it is registered as the vernacular-based domain name and the registered result is notified to the user. Therefore, Internet domain names presently in saturation can be re-created as different alternatives thereto by several ten kinds of vernacular keyboards.

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FIG. 1

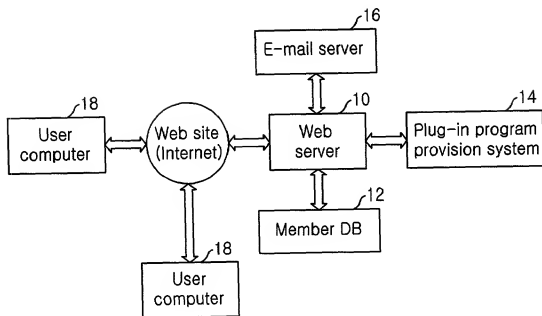




FIG. 2

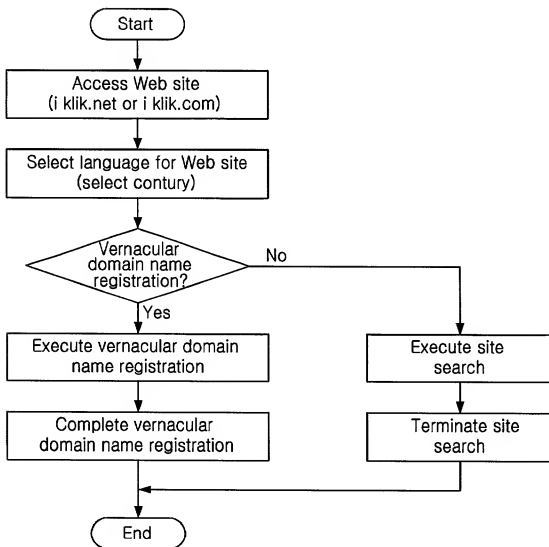
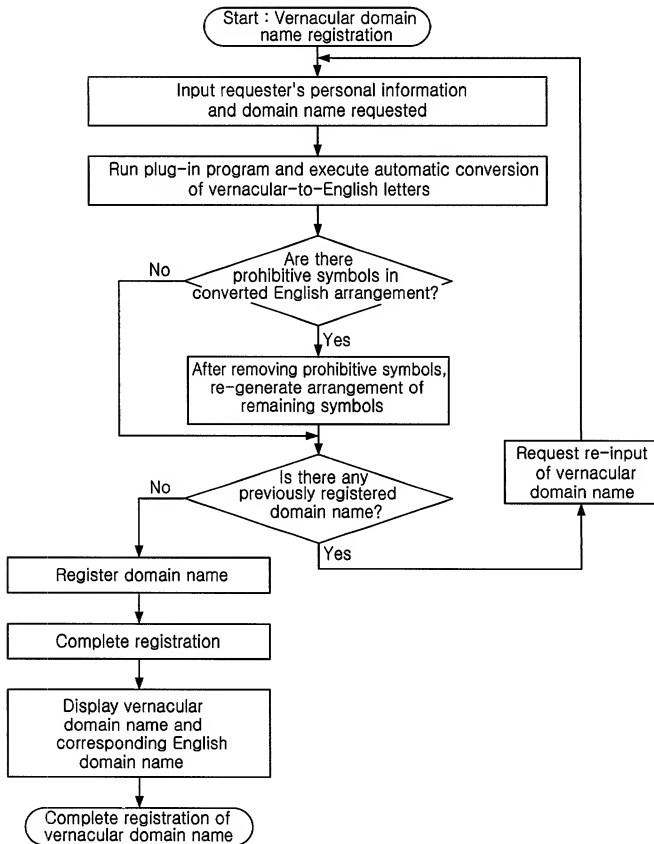


FIG. 3



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FIG. 4

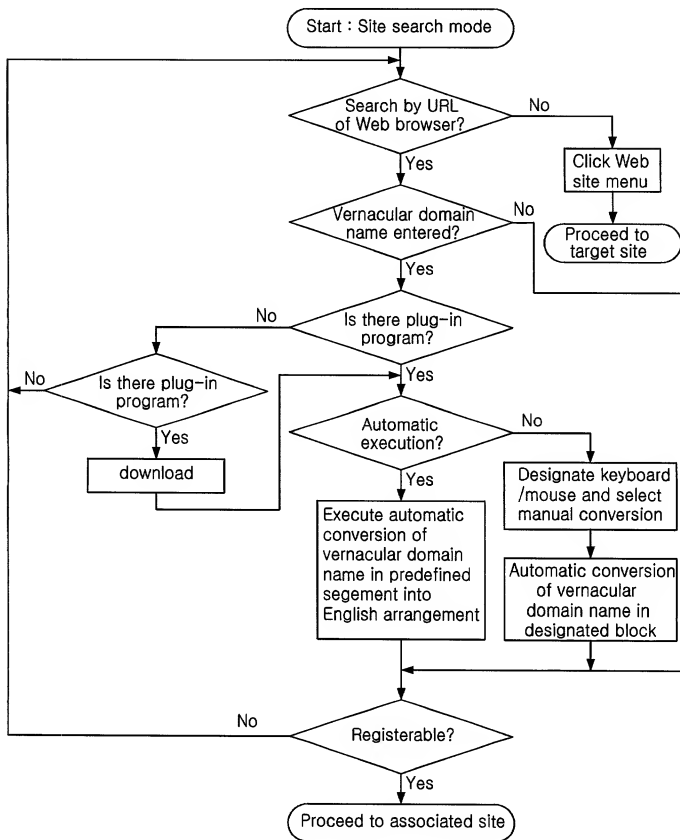
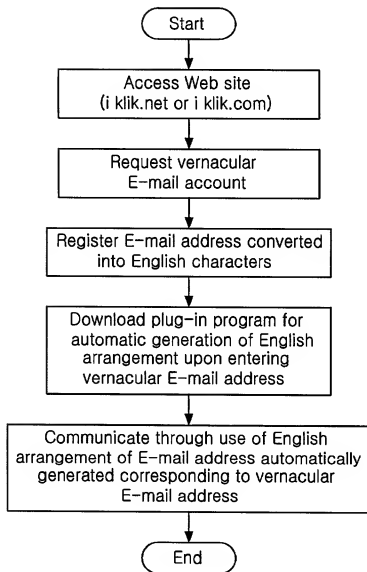


FIG. 5



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FIG. 6

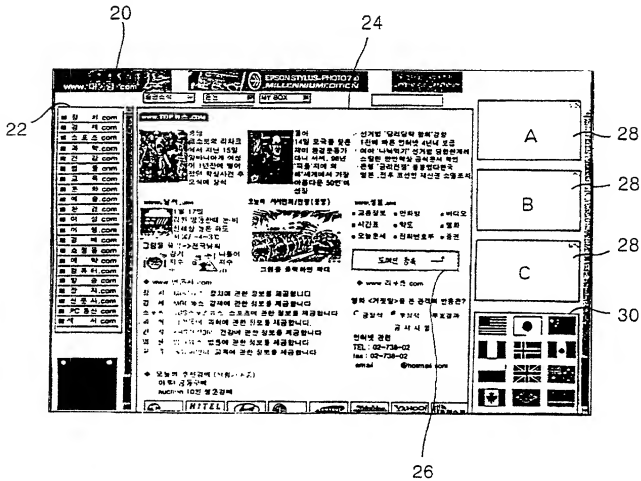
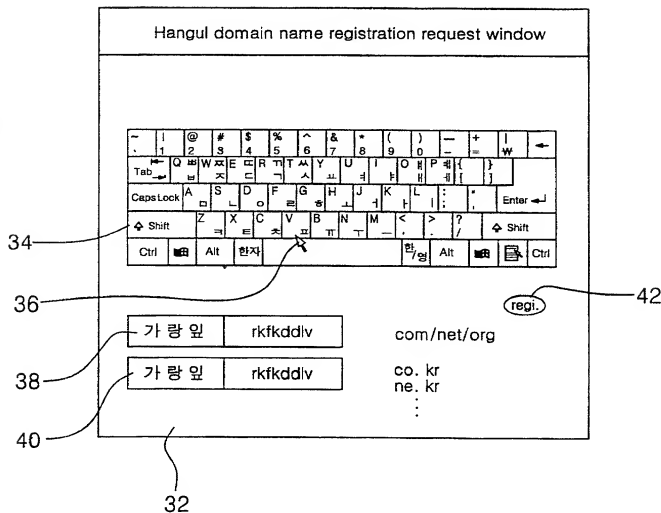


FIG. 7



DECLARATION FOR UNITED STATES PATENT APPLICATION,  
POWER OF ATTORNEY, DESIGNATION OF CORRESPONDENCE ADDRESS

As a below named inventor, I hereby declare that my residence, post office address and citizenship are as stated below next to my name, and that I believe I am the original, first and sole inventor (if only one name is listed below) or an original, first and joint inventor (if plural names are listed below) of the subject matter which is claimed and for which a patent is sought on the invention entitled SERVICE EXECUTION METHOD AND SYSTEM FOR REGISTRATION OF DOMAIN NAMES USING VERNACULARS IN NON-ENGLISH SPEAKING COUNTRIES

, the specification of which

☐ is attached hereto.

☐ was filed on \_\_\_\_\_ as Application No. \_\_\_\_\_ and was amended on \_\_\_\_\_ [if applicable].

☐ was filed under the Patent Cooperation Treaty on \_\_\_\_\_, as Application No. \_\_\_\_\_, the United States of America being designated. \* May 16, 2000 \*\* PCT/KR00/00473

I hereby state that I have reviewed and understand the contents of the above identified specification, including the claims, as amended by any amendment referred to above.

I acknowledge the duty to disclose to the Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I hereby claim the benefit under Title 35, United States Code, §119(e) of any United States Provisional Application listed below: United States Provisional Application No. \_\_\_\_\_, filed \_\_\_\_\_

I hereby claim foreign priority benefits under Title 35, United States Code, § 119 of any foreign application(s) for patent, utility model, design or inventor's certificate listed below and have also identified below any foreign application(s) for patent, utility model, design or inventor's certificate having a filing date before that of the application(s) on which priority is claimed:

Prior Foreign Application(s)	Filed	Priority Claimed
KOREA 1999-42541	October 4, 1999	Yes
KOREA 2000-2335	January 19, 2000	Yes

I hereby appoint the following attorneys and agents associated with the following customer number to prosecute this application and to transact all business in the Patent and Trademark Office connected therewith:



26694

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Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
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Citizenship: \_\_\_\_\_  
Residence and Post Office Address: \_\_\_\_\_